REMARKS

The Office Action dated March 16, 2005 has been received and carefully noted. The above amendments to the drawings, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-16 are pending and under consideration.

IN THE DRAWINGS:

On page 2 of the Office Action, FIG. 2 was objected to because the figure does not include the reference numbers "220" and "250." Accordingly, please substitute the attached Replacement Sheet containing FIG. 2 for the original drawing sheet filed in connection with the present application, as set forth above. The Examiner's approval of the attached Replacement Sheet is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 3, claims 1-16 were rejected under 35 U.S.C. § 103 as being unpatentable over WO 01/26322 to Khalil et al. ("Khalil") and U.S. Patent No. 6,526,506 to Lewis ("Lewis"). The Office Action took the position that Khalil and Lewis discloses all the aspects of dependent claims 1-16. The rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 2-8 are dependent, recites a security association establishment negotiation method including forwarding identifying information and a request for a security association from a Mobile Node via a first interface to a first network element, and forwarding the identifying information and the request for a security association from the first network element to a second network element via a second interface. The method also performs negotiations between the first network element and the second network element via the second interface to establish a security association between the Mobile Node and the first network element, the second network element utilizing previously stored security association parameters of the Mobile Node. Upon agreement between the first network element and the second network element with regard to the security association parameters, the first network element forwarding the agreed-upon security association parameters to the Mobile Node via the first interface.

Independent claim 9, upon which claims 10-16 are dependent, recites a security association establishment negotiation apparatus for a Mobile Node. The apparatus includes a first interface connected to a first network element to forward identifying information and the request for a Security Association from the Mobile Node to the first network element. The apparatus also includes a second interface connected between the first network element and a second network element to forward the identifying information and the request for a Security Association from the first network element to a the second network element, the first network element performing negotiations between

the first network element and the second network element to establish a Security Association between the Mobile Node and the first network element utilizing Security Association parameters of the Mobile Node previously stored in the second network element. Upon agreement between the first network element and the second network element with regard to the Security Association parameters, the first network element forwarding the agreed-upon Security Association parameters to the Mobile Node via the first interface.

As will be discussed below, Khalil and Lewis fail to disclose or suggest the elements of any of the presently pending claims.

Khalil generally describes a communication network including a home domain, a foreign domain operably coupled to the home domain, and a mobile node operably coupled to the foreign domain. See page 3, lines 7-10. The mobile node is adapted to generate and transmit a registration request to the foreign domain, the registration request including an identity of the mobile node in encrypted form and network routing information in non-encrypted form. See page 3, lines 10-13.

The Office Action correctly recognized that Khalil fails to teach or suggest, "forwarding identifying information and a request for a security association from a Mobile Node via a first interface to a first network element," as recited in independent claim 1. Accordingly, the Office Action relies on Lewis, to be later discussed, as describing such claimed recitation. Also, according to the Office Action, the foreign domain or foreign agent of Khalil is same as the first network element recited in

independent claim 1 and the home domain or home agent of Khalil is same as the second network element recited in independent claim 1. Furthermore, according to the Office Action, Khalil describes, "performing negotiations between the first network element and the second network element via the second interface to establish a security association between the Mobile Node and the first network element, the second network element utilizing previously stored security association parameters of the Mobile Node," as recited in independent claim 1. Applicants respectfully traverse such assertion.

For purposes of advancing prosecution, assuming that the foreign agent of Khalil is the first network element recited in independent claim 1 and the home agent of Khalil is the second network element recited in independent claim 1 as indicated in the Office Action (not admitted), Khalil fails to teach or suggest the performing negotiations operation recited in independent claim 1. For instance, the Office Action refers to page 31, lines 5-9, of Khalil as teaching performing the negotiations between the first network element and the second network element. The referred portion of Khalil provides a security negotiation between an initiator 13002 and a responder 13004. Khalil clarifies that, as described on page 25, lines 10-14, the initiator or initiating entity 13002 is the mobile node and the responder or responding entity 13004 is the home agent (i.e., the second network element as suggested in the Office Action).

In contrast, the recitations of independent claim 1 recite that the negotiations are performed "between the first network element and the second network element." Khalil instead provides security negotiations between the mobile node and the home agent (i.e.,

the second network element). Pages 1-3 of the specification of the present invention describes conventional networks were the mobile node must directly establish security associations with different network entities and provides that the negotiations in these instances may be extensive and therefore not efficient. Khalil describes such conventional security negotiations between the mobile node and other network devices. Khalil does not teach or suggest performing negotiations between the first network element (i.e., foreign agent) and the second network element (i.e., the home agent) "via the second interface to establish a security association between the Mobile Node and the first network element," as recited in independent claim 1.

Although Khalil provides that that the teachings of the security negotiations between the initiator 13002 and the responder 13004 may be applied to the communication networks 100 and 1000, as well as, to communication networks in general, nothing in Khalil refers to performing the negotiations between the first network element (i.e., foreign agent) and the second network element (i.e., the home agent). See page 31, lines 5-9, of Khalil. The description provided in Khalil does not enable a person of ordinary skill in the art to make and use the present invention for its intended purpose. A person of ordinary skill in the art can only determine from the general statement made in Khalil that a negotiation may be performed between a mobile node and other network devices or a mobile node and a specific communication network, not between a first and second network elements, where the second network would utilize "previously stored security association parameters of the Mobile Node," as recited in independent claim 1.

In addition, Khalil further describes that since the private portions of the registration request 300 are encrypted using the key KEY 0, the foreign agent 106 (i.e., the first network element according to the Office Action) cannot read any of the private information contained in the registration request 300. See page 12, lines 25-31. In this manner, the identity of the mobile node 102 is fully hidden from the foreign agent 106 until the home agent (i.e., the second network element according to the Office Action) authenticates the foreign domain 104 and the foreign agent 106 (i.e., the first network element according to the Office Action) using the registration request transmitted by the mobile node. Accordingly, Khalil is concerned with an authentication between the foreign agent 106 (i.e., the first network element according to the Office Action) and the home agent (i.e., the second network element according to the Office Action). Khalil does not teach or suggest, "...establish a security association between the Mobile Node and the first network element; and upon agreement between the first network element and the second network element with regard to the security association parameters, the first network element forwarding the agreed-upon security association parameters to the Mobile Node via the first interface" as recited in independent claim 1.

The Office Action refers to Lewis as describing forwarding of a request for a security association from a mobile node to a first network element. Lewis generally provides a first level of encryption for wireless communications taking place between a mobile terminal and an access point. See column 2, lines 46-57. In addition, a second, higher level of encryption is provided which is distributed beyond the wireless

communications onto the system backbone itself. The access point is provided which includes a transceiver for wirelessly communicating with mobile terminals.

However, Lewis does not cure the deficiencies of Khalil. Similarly to Khalil, Lewis does not teach or suggest, "performing negotiations between the first network element and the second network element via the second interface to establish a security association between the Mobile Node and the first network element, the second network element utilizing previously stored security association parameters of the Mobile Node," as recited in independent claim 1. Instead, Lewis simply provides a multiple level of encryption between a mobile terminal and an access point, and a system backbone.

Even if Khalil and Lewis are combined, a combination thereof would not teach or suggest all the recitations of independent claim 1. Instead, a combination of Khalil and Lewis would provide authenticating a foreign agent 106 and a home agent 108 using a multi-level encryption scheme for a wireless network. The encryption scheme of the combination of Khalil and Lewis would be primarily applied between the mobile terminal and an access point. However, the combination of Khalil and Lewis would not teach or suggest performing negotiations between the foreign agent 106 and the home agent 108 to establish a security association between the mobile node and the foreign agent 106. The combination of Khalil and Lewis fails to teach or suggest, at least, "performing negotiations between the first network element and the second network element via the second interface to establish a security association between the Mobile Node and the first network element, the second network element utilizing previously stored security

association parameters of the Mobile Node; and upon agreement between the first network element and the second network element with regard to the security association parameters, the first network element forwarding the agreed-upon security association parameters to the Mobile Node via the first interface," as recited in independent claim 1.

Independent claim 9 recites, "a second interface connected between the first network element and a second network element to forward the identifying information and the request for a Security Association from the first network element to a the second network element, the first network element performing negotiations between the first network element and the second network element to establish a Security Association between the Mobile Node and the first network element utilizing Security Association parameters of the Mobile Node previously stored in the second network element; wherein, upon agreement between the first network element and the second network element with regard to the Security Association parameters, the first network element forwarding the agreed-upon Security Association parameters to the Mobile Node via the first interface." Because independent claim 9 includes similar claim features as those recited in independent claim 1, although of different scope, and because the Office Action refers to similar portions of the cited references to reject independent claim 9, the arguments presented above supporting the patentability of independent claim 1 are incorporated herein to support the patentability of independent claim 9.

CONCLUSION:

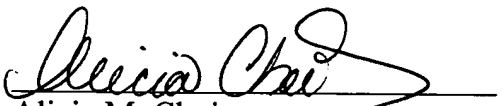
In view of the above, Applicants respectfully submit that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicants further submit that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicants therefore respectfully request that each of claims 1-16 be allowed and this application pass to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Alicia M. Choi
Registration No. 46,621

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

AMC:wmG

Enclosures: Replacement Sheet of FIG. 2

IN THE DRAWINGS:

FIG. 2 is amended as described below by presenting replacement figure as attached hereto.

Please substitute the attached Replacement Sheet containing Fig. 2 for the original sheets of drawings filed in connection with the present application. In the Replacement Sheets of Fig. 2, element number "220" has been included to show a visited network and element number "250" has been included to show a home network, as described in the Specification of the present application. No new matter has been added.